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VINCENT L CARNEY
PO BOX 80836
LINCOLN, NE 685010836

EXAMINER	
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BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

Application Number: 09/379,851
Filing Date: August 24, 1999
Appellant(s): JOUTRAS ET AL.

Vincent L. Carney
For Appellant

EXAMINER'S ANSWER

This is in response to the appeal brief filed 08 July 2002.

(1) Real Party in Interest

A statement identifying the real party in interest is contained in the brief.

(2) Related Appeals and Interferences

A statement identifying the related appeals and interferences which will directly affect or be directly affected by or have a bearing on the decision in the pending appeal is contained in the brief.

(3) Status of Claims

The statement of the status of the claims contained in the brief is correct.

(4) Status of Amendments After Final

The appellant's statement of the status of amendments after final rejection contained in the brief is correct.

(5) Summary of Invention

The summary of invention contained in the brief is correct.

(6) Issues

The appellant's statement of the issues in the brief is correct.

(7) Grouping of Claims

Appellant's brief includes a statement that the claims do not stand or fall together and provides reasons as set forth in 37 CFR 1.192(c)(7) and (c)(8).

(8) Claims Appealed

The copy of the appealed claims contained in the Appendix to the brief is correct.

(9) Prior Art of Record

2,832,334	Whitelaw	4-1958
5,052,379	Airy et al.	10-1991
5,052,375	Stark et al.	10-1991
5,788,618	Joutras	8-1998

(10) Grounds of Rejection

The following ground(s) of rejection are applicable to the appealed claims:

Claim 1 is rejected under 35 U.S.C. 102(b) as anticipated by or in the alternative, under 35 USC 103(a) as obvious over Whitelaw. This rejection is set forth in a prior Office Action, mailed on 12 July 2001.

Claim 1 is rejected under 35 U.S.C. 103(a) as being unpatentable over Airy in view of Whitelaw. This rejection is set forth in a prior Office Action, mailed on 12 July 2001.

Claims 2-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Airy in view of Whitelaw as applied to claim 1 above, and further in view of Stark. This rejection is set forth in a prior Office Action, mailed on 12 July 2001.

Claims 1-2 and 12 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-7 of U.S. Patent No. 5,788,618. This rejection is set forth in a prior Office Action, mailed on 12 July 2001.

Claims 4, 10 and 11 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-7 of U.S. Patent No. 5,788,618 in view of Whitelaw. This rejection is set forth in a prior Office Action, mailed on 12 July 2001.

Claims 3, 5-6 and 8-9 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-7 of U.S. Patent No. 5,788,618 in view of Stark. This rejection is set forth in a prior Office Action, mailed on 12 July 2001.

(11) Response to Argument

Regarding issue 1:

Appellant states that Whitelaw does not teach the claimed "friction means for varying the resistance to movement" however, Whitelaw clearly teaches this in elements 56, 45, 28 and 49 in figure 4. Whitelaw teaches friction member 56 that is disposed between gear 45 and plate 28 that provides friction between the first and second sections 10 and 11 of the brace. Adjusting cap nut 49 varies the clamping force between the two members 45 and 28. Tightening the nut 49 increases the friction between the first and second sections 10 and 11 to rotation. This clearly

anticipates the claimed "friction means for varying the resistance to movement of the first and second sections with respect to each other". As the nut is tightened the resistance is varied.

Clearly the friction means is connected to the first and second sections since the friction member 56 is located between the two arms of the two sections.

The cap nut 49 provides the claimed "means for adjusting the resistance in the friction means".

Regarding the claimed "wherein the friction means provides a preadjusted resistance to motion independent of the velocity of the motion", setting the cap nut 49 to a preset amount of resistance would comprehend the claimed "preadjusted resistance to motion". This preadjusted amount of resistance would be independent of the velocity because the resistance is constant throughout all range of motion. The resistance is constant and therefore is independent of the velocity of motion. Appellant admits that Whitelaw merely adjusts the frictional resistance to a constant preadjusted value and therefore anticipates the claim.

Regarding the claimed "motion in a pattern to provide proper tracking", the motion of the patient's leg during use can be moved in any pattern desired and the flat shape of the support plate 28 and housing 29 restricts rotation of the joint in only one plane of motion. This one plane of pivotal movement provides the proper tracking motion of the joint. This claim language is merely defining a pattern of movement of the joint within the devise to provide proper tracking of the joint. The brace of Whitelaw broadly provides proper tracking.

Appellant states that there is no teaching of the reduction of anthrokinetics dysfunction as defined in the specification on page 39. The specification defines this as "ordinary movement of body portions about a joint result in symptomatic events such as pain and/or inflammation and/or

movement in a direction at an angle to the desired movement". This would appear to comprehend any injury or accident to the joint that would result in pain or inflammation. That is the purpose of Whitelaw. Whitelaw teaches the device is for treating human joints that are adversely affected by illness or accident resulting in stiffness and lack of mobility of the joint and that the device is used to "exercise the muscles associated therewith by the use of these muscles to operate the exerciser against a preselected resistive force." This could comprehend the claimed functional intended use language.

Appellant also argues that there is no teaching for "determining a tracking problem". It is not clear how much weight can be given this argument since there is no claim language recited requiring this function. There is nothing claimed that somehow determines a tracking problem.

Appellant also argues that there is no teaching for "varying the resistance using the friction means". As noted above the cap nut 49 provides the means for varying the resistance.

Appellant also argues that there is no teaching for "a pattern to provide proper tracking". As just explained the relationship of the joint structure of Whitelaw provides restricted planar movement thereby comprehending a "motion in a pattern to provide proper tracking."

Regarding issue 2:

Appellant argues that "Whitelaw provides a nut which can adjust the resistance but once adjusted there is no mechanism for varying the resistance." It is not clear how applicant can disregard the teaching of Whitelaw. Once preadjusted the nut can be turned to vary the amount of frictional pressure applied to the two moving plates thereby comprehending the claims. It adjusted once thereby setting the preadjusted value. It may not be able to be adjusted

dynamically but the claim doesn't require dynamic adjustment. The claim comprehends appellant's specification where the resistance is constant just as set forth in Whitelaw.

Appellant argues that "there is no mechanism in Whitelaw for compensating with increased resistance to the stronger opposing or antagonistic muscles to permit the weaker muscles or agonistic muscles to function normally". It is not clear how much weight can be given this argument since the claims do not require such a limitation. There is no mechanism claimed for compensating with increased resistance against anything. The cap nut of Whitelaw does not have to be modified because the claims do not define over the nut of Whitelaw.

Appellant argues that 35 USC 112 6th paragraph affords the appellant the ability to incorporate the language from the specification starting on page 39 relating to tracking. The examiner has considered the specification in interpreting the claims however, it is still maintained that the claims as recited comprehend the device of Whitelaw. The claims recite "the friction means provides a preadjusted resistance to motion independent of the velocity of the motion in a pattern to provide proper tracking." This language describes the friction means as providing a preadjusted resistance to motion independent of the velocity. As noted above the friction arrangement of Whitelaw provides a constant friction force that can be preset by the cap nut 49. As the brace is moved during use the friction would remain constant at the preadjusted value. This resistance to motion is also independent to the velocity of the motion because it is constant. One of appellant's programs that can be selected as set forth in the specification is the "constant resistance or flat plane program". This constant form of friction comprehends the Whitelaw friction means for providing a preadjusted resistance to motion independent of velocity. This constant resistance and the planar restricted movement of the joint structure of

Whitelaw provides proper tracking of joint movement. It would prevent any movement of the joint outside of the pane of motion which would cause pain for the patient.

It would appear that appellant is relying on something out of the specification that may not be comprehended by Whitelaw. As noted above, limitations from the specification cannot be incorporated into the claims without proper support. There is nothing claimed that would define over the friction means and means for adjusting of Whitelaw. Limitations from the specification cannot be incorporated into the claims without claim language to support it. Although operational characteristics of an apparatus may be apparent from the specification, we will not read such characteristics into the claims when they cannot be fairly connected to the structure recited in the claims. See In re Self, 671 F.2d 1344, 1348, 213 USPQ 1, 5 (CCPA 1982).

Appellant argues that appellant has discovered that the device is able to cure many painful arthrokinetics dysfunctions with the mechanism recited in claim 1. Whitelaw teaches every limitation that is recited in claim 1 and therefore it is not clear how someone using the Whitelaw device to relieve pain and provide proper tracking movement is any different from the claimed device. The exercise routine of Whitelaw to reduce arthrokinetic dysfunction would also relieving pain at least to a certain extent by providing proper tracking movement and strengthening damaged muscles. As noted above the planar hinge structure of Whitelaw restricts movement in a plane and therefore at least provides some degree of proper alignment motion or tracking of the muscular motion. It is not clear how the claims define over Whitelaw.

Regarding Issue 3:

Appellant argues, "Airy et al., discloses an exercising device in which the force varies with velocity" however, this is not accurate. Airy teaches column 12, lines 6-24 of a resistance

unit 36 that uses a highly viscous fluid where in "the viscous fluid within the cavity 238 is sheared as the rotor is rotated, thereby providing resistance to the rotation of the rotor in either direction that the rotor may be rotated." Airy also teaches "the viscosity of the fluid remains substantially constant even if the apparatus 14 of the present invention is utilized over extended periods of time." The shearing action of the highly viscous fluid is broadly a friction means for providing resistance to movement between the first and second sections of the brace. The viscous fluid is between the small clearances between the rotor 232 and the stationary components of the resistance unit 36 thereby providing frictional resistance between the two relatively rotating parts. The shearing action within the viscous fluid is a friction resistance to motion between the relatively moving parts.

Moreover, Airy teaches "the resistance to rotation provided by the resistance unit 36 may be varied by altering the viscosity of the fluid within the rotor cavity or by varying the width of the rotor." Therefore, Airy teaches, "friction means for varying the resistance to movement of the first and second sections with respect to each other" and "means for adjusting the resistance in the friction means wherein the friction means provides a preadjusted resistance to motion independent of the velocity of the motion in a pattern to provide proper tracking." Airy teaches the viscosity of the fluid remains constant and therefore the friction would remain constant regardless of the velocity of motion.

It would appear that Airy anticipates the claimed invention however, to any extent it is felt that the viscous fluid does not provide a friction means Whitelaw teaches in figure 4 a friction means between relatively moving parts as noted above. It would have been obvious to one of ordinary skill in the art to modify Airy to use a friction means such as taught by Whitelaw

to provide the resistance to motion as another obvious equivalent alternative resistance unit. Airy teaches in column 11, lines 17-20, various types of resistance units may be used with their invention. This is just another different type of resistance unit that could be used in Airy.

Regarding issue 4:

Airy teaches a microprocessor that has a program to receive various parameters from transducers within the transduced resistance unit 330 to monitor the rehabilitative progress of the patient and also to provide feedback to the patient. Airy is not antagonistic to the provision of using a microprocessor to control the operation of the device. While Airy may not teach using the microprocessor to vary the pressure between the two relatively moving members, Stark does.

Stark teaches "the electromechanical brake/clutch mechanism 41a is controlled by a microprocessor 64 (see FIG. 15) in the control unit 10'' which is programmed to release the brake/clutch mechanism 41a after the completion of a specified number of isometric events or repetitions". Airy teaches various resistance units can be used in combination with their device and Whitelaw teaches a conventional resistance element between two relative moving plates to provide variable friction means to control the friction between the two relatively moving plates. Stark goes a step further and automates the control of the friction between the two relative moving plates. A microprocessor can be used to control an electromechanical brake system to vary the frictional resistance between the two plates so that the patient can follow an exercise program. It would have been obvious to one of ordinary skill in the art to further modify Airy to enhance the microprocessor of Airy to control the variable friction means as taught by Stark so as to automate the variable friction means and provide an exercise program for the patient. There appears to be no unobviousness to automate something that was done by hand.

Appellant argues that there is no motivation to modify Airy to use the microprocessor to control the operation of the brace. The motivation of providing a microprocessor to control the operation of the brace would be the same motivation for using a microprocessor for any other use. Microprocessors are used to automate something that was done by hand. Stark teaches a way the patient can perform an exercise routine automatically through the use of a microprocessor. All of these devices are used for a patient to exercise the injured joint by applying force against the resistive force provided by the brace. Stark completes the device by providing a microprocessor to keep the patient following a strict exercise program. Such would have been obvious to one of ordinary skill in the art of using microprocessor to control every aspect of our lives. Moreover Stark teaches, "In the most basic configuration the control unit 10'' might simply indicate sensed stress, display data and/or store data" (column 26, lines 48-50). Stark teaches the basic configuration of the control unit can be just a monitor as does Airy but then goes on to teach the control unit can be an active participant of the exercise program.

Appellant argues that Stark teaches stopping the exercise magnetically whereas claim 3 recites the friction members that are programmed to control resistance to movement for the purpose of correcting for false tracking is controlled magnetically. It is not clear how much weight can be given the argument that claim 3 requires that the friction members are programmed to control the resistance for the purpose of correcting for false tracking magnetically. No weight can be given this argument because claim 3 does not require this. All that claim 3 requires is that "the pressure between said first and second friction members is controlled magnetically." Even the electromechanical brake of Stark anticipates this language. Stark doesn't have to teach for the purpose of correcting for false tracking magnetically because

the claims do not require it. Broadly the electromechanical brake of Stark controls the friction by controlling the magnetic coil 45a and therefore comprehends the claim language.

Regarding claim 4, Airy teaches various resistance units can be used in combination with the brace to provide the variable resistance and Whitelaw teaches just one of those equivalent alternative means of providing variable resistance. The Whitelaw device is a simple cap nut 49 that is a screw drive means to vary the frictional resistance between the two plates. Automating the screw drive means using a microprocessor would appear well within the realm of the artisan of ordinary skill. Any conventional motor drive mechanism for controlling the rotation of the cap nut 49 would have been obvious to one of ordinary skill in the art. Airy and Stark already teach that it is conventional to provide motor drive means to control the variable resistance between the two rotating members. Providing one for the Whitelaw cap nut 49 would have been an natural extension.

Regarding claim 7, Airy teaches the different resistance units 36, 34, 310, 282, 274, 330 are removably attached to the brace joint and therefore comprehend the claim.

Regarding claims 9 and 11, the circular shapes of the joint members have broadly curved surfaces and therefore comprehend the claim language.

Regarding claim 12, Stark teaches column 25, lines 16-19, "The control program 82 might be programmed to vary the number of repetitions and force (torque) requirement throughout the user patient's recovery/exercise term." Clearly Stark teaches "the program creates greater friction by pressing the friction members together more tightly when the limbs are being moved in a direction aided by weakened muscles". Stark appears to teach the program is

used to vary the amount of force or resistance the patient has to work against in the exercise routine.

Appellant argues that the applicant has found by clinical studies that people with patellofemoral injuries, for example, can be enabled to walk and climb steps and the like which they could not do before through the use of the apparatus covered in claim 12. Since Stark teaches the computer can be programmed to create greater friction for the patient to exercise as claimed it would appear Stark would accomplish the same results. It is not clear how Stark wouldn't achieve the same results because there is nothing claimed to define over Stark.

Regarding Issue 5:

Appellant argues that Joutras fails to teach the last paragraph of claim 1 and the teaching of claim 12 of this application. The examiner respectfully disagrees.

Last paragraph of claim 1 of the instant invention:	Claim 1 of Joutras '618:
Means for adjusting the resistance in the friction means	"wherein the resistance means includes program means for varying a resistance force over a portion of movement in accordance with the program means" "means for generating the resistance force by friction between two solid surface moved with respect to each other"

Wherein the friction means provides a preadjusted resistance to motion	"means for providing a predetermined resistance force" "means for generating the resistance force by friction between two solid surface moved with respect to each other"
Independently of the velocity of the motion	The prior art has established that providing a constant amount of resistance force would result in a resistance force that is independent of the velocity of motion.
In a pattern to provide proper tracking	The prior art also teaches the planar restricted movement of the joint provides proper tracking in any pattern of movement.
Claim 12 recites:	Last paragraph Claim 1 of Joutras
Said program creates greater friction by pressing the friction members together more tightly when the limbs are being moved in a direction aided by weakened muscles, whereby weakened muscles are given greater support than stronger muscles	"wherein the resistance means includes means for generating the resistance force by friction between two solid surfaces moved with respect to each other while in contact with each other"

Regarding Issue 6:

Whitelaw teaches restricted planar movement for the joint and therefore comprehends the claimed tracking movement. Stark teaches the convention of automating the variable friction

force and for Whitelaw one of ordinary skill in the art would provide some motorized means to rotate the cap nut 49 in any conventional way.

Regarding Issue 7:

Arguments given above regarding these dependent claims would apply here as well.

For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,

Danton DeMille
Primary Examiner
Art Unit 3764

ddd
October 2, 2004

Conferees

Steve Crow
Primary Examiner

Justine Yu
Supervisory Patent Examiner

VINCENT L CARNEY
PO BOX 80836
LINCOLN, NE 68501-0836